PROJECT TITLE : Nitrate Reduction by Controlled Fermentation

PERIOD COVERED : March 24th - April 30th

WRITTEN BY : C. Ruf

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1. TRIALS

1.1. Trial NINO 56

During this trial the rented carousel extractor was used for the extraction of an RL Europe feedstock blend including OTM's. The total solid content of the extract had to be adjusted for fermentation. Then the extract was totally denitrated without any problems.

1.2. Trial NINO 57

NINO 57 is the first trial of an extended period which will be divided into different trials. The objectives of NINO 57, which has been running since April 14th, week-ends included are :

1) to run for several weeks at constant conditions.
2) to get mass and energy balances, mainly around the fermentation and the separation of NINOMASS.
3) to switch from phosphoric to lactic acid for the pH regulation in the fermenter, in order to avoid the accumulation of phosphates in the fermented extract.

2. EVALUATION OF DENITRATION PROCESSES

2.1. RL comparative sheets

The sheets made with denitrated extracts from different processes as well as cigarettes made at different sheet levels were analyzed in Richmond. The NINO cigarettes were difficult to light and tended not to burn properly at the 100% level (Ref. 1). The complete report on the RL denitration comparison will be issued at the beginning of July.

2.2. Visit of Dr. W. Gannon and B. Semp

During the visit of Dr. W. Gannon and B. Semp from April 21st to 25th different aspects of the evaluation of denitration processes were discussed.

2.3. NINO scale-up

The scale-up study was discussed again on April 21st in the

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presence of representatives from Chemap, PM USA and PME. Chemap has finished a basic flow sheet for the integration of NINO into our RL line. Some flow rate data have still to be confirmed.

3. PILOT PLANT

See monthly report of April 1980 "Pilot Plant Operations" by C. Ruf.

4. NINO/RCB

On April 14th a trial was carried out in Onnens with 5% of NINO washed stems with the corresponding amount of denitrated and concentrated extract.
See also monthly report of April 1980 "Reconstituted Tobacco II" by A. Robbiani.

5. NITRATE REDUCTION OF STRIPS

See monthly report of April 1980 "Unit Operations II" by N. Lüthi.

6. NINOMASS

A fluidized bed dryer from Aeromatic will be rented as of the middle of May.
See also monthly report of April 1980 "Unit Operations I" by P. Karbacher.

7. MISCELLANEOUS

7.1. On April 2nd a NINO meeting took place to fix some directions about the next trials (Ref. 2).

7.2. The undersigned was in Brussels from March 24th to 28th to follow the M.I.T. course "Fermentation Technology".

7.3. A presentation on the NINO project situation was given by C. Ruf on April 29th.

8. REFERENCES

Ref. 1 : Letter from B. Carpenter to H. Gaisch, March 27th 1980
Ref. 2 : Procès-verbal de la séance NINO du 2.4.1980 par C. Ruf.

PROCESS DEVELOPMENT

C. Ruf

May 7th, 1980
CLR/sde

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